

WORK INSTRUCTION		
Title: Replacement of ICV/OCV Small Plugs, O-Rings, and Gaskets		
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Approved for Use by: <u>Michael R. Brown</u> Effective Date: <u>February 2006</u>		
Applicable Drawings: <ul style="list-style-type: none">• 2077-500SNP (Sheets 1-11) - TRUPACT-II Packaging SARP Drawings• 707-SAR (Sheets 1-12) - HalfPACT Packaging SARP Drawings		
SARP Requirements: <ul style="list-style-type: none">• Chapter 8.0, Para. 8.2.3.1 - Plugs and covers shall be replaced if damaged.• Chapter 8.0, Para. 8.2.4.3 - Containment boundary O-ring seals shall be replaced annually and if unable to perform their intended function.• Chapter 7.0 - Noncontainment boundary O-rings shall be replaced if unable to perform their intended function.		
Tools Required: <ul style="list-style-type: none">• ICV/OCV Vent Port Plug Removal/Pressure Relief Tools - 2077-091, A1 & A2• ICV/OCV Vent Port Cover Removal/Installation Tool - 2077-092, A1• ICV/OCV Seal Leak Check Tools - 2077-093, A1 & A2• OCV/ICV Seal Test Port Plug Installation/Removal Tools - 2077-094, A1 & A2• OCV/ICV Leak Detection Tool - 2077-095, A1 & A2• Stainless Steel Tube Brushes for cleaning ports: 1/2-in., 9/16-in., 7/8-in., 1-3/16-in., 1-3/8-in., and 1-1/2-in. diameter• Calibrated torque wrench (55 to 65 lb-in.)• Calibrated torque wrench (30 to 50 lb-ft)• 1-in. Allen wrench or 1-in. Allen head socket• Lead Wire Seal Crimper		
Spare Parts Required: <ul style="list-style-type: none">• The spare parts are identified in the Work Instruction steps. All spare parts listed are controlled and shall be recorded on the Maintenance Record.		
Materials Required: <ul style="list-style-type: none">• Vacuum grease• Denatured alcohol or equivalent• Lint-free rags• Epoxy adhesive• Nickel bearing lubricant• Metal tags (leak test required [PN 2077-02013])• Lead wire seals (PN 2077-02012)		
Safety Requirements: <ul style="list-style-type: none">• Safety will be observed in accordance with site requirements.		
Prerequisite Conditions: <ul style="list-style-type: none">• The parts will have been removed and made accessible.		

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Instruction Steps: <ul style="list-style-type: none">• The spare parts listed below shall be replaced with like-for-like components from the approved spare parts supply.• The replacement of these parts shall be documented on the Maintenance Record.• This instruction is not required to be attached to the Maintenance Record but may be used as a checklist during performance of maintenance.• There is no requirement to replace components in the sequence listed.		
General Requirements: <ul style="list-style-type: none">• Handling O-rings are not to be lubricated.• Always replace the O-ring or gasket with a new one if the plug or cover is replaced.• Clean the port threads using appropriate size stainless steel tube brush.• Clean the brushed area using lint-free rags and alcohol.• If only the O-ring is to be changed, thoroughly clean plug threads.• Lightly coat the new seal O-ring with vacuum grease and install on plug.• Lightly coat threads of brass plugs with vacuum grease.		
<input type="checkbox"/> OCV vent port cover	(PN 2077-156-18)	PO# _____
<input type="checkbox"/> OCV vent port cover seal O-ring	(PN 2077-160-16)	PO# _____
<input type="checkbox"/> OCV vent port cover handling O-ring	(PN 2077-160-19)	PO# _____
1.0 Install and torque to 55 to 65 lb-in.		
<input type="checkbox"/> OCV seal test port plug seal O-ring	(PN 2077-160-26)	PO# _____
. or (PN 2077-180-24)		
<input type="checkbox"/> OCV seal test port plug	(PN 2077-156-07)	PO# _____
<input type="checkbox"/> ICV seal test port plug seal O-ring	(PN 2077-180-24)	PO# _____
. or (PN 2077-160-26)		
<input type="checkbox"/> ICV seal test port plug	(PN 2077-156-07)	PO# _____
1.0 Install and torque to 55 to 65 lb-in.		
<input type="checkbox"/> OCV vent port plug	(PN 2077-156-17)	PO# _____
<input type="checkbox"/> OCV vent port plug seal O-ring	(PN 2077-160-17)	PO# _____
<input type="checkbox"/> OCV vent port plug handling O-ring	(PN 2077-160-18)	PO# _____
(Leak test NOT required if replacing handling O-ring)		
1.0 Install and torque to 55 to 65 lb-in.		
2.0 If shipping radioactive waste, perform Preshipment (helium) Leakage Rate Test, and attach documentation to the Maintenance Record.		

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<p>3.0 If shipping empty packaging, wire/crimp a "Leak Test Required" tag to the vent port seal boss with the name of the replaced O-ring written in indelible ink on the reverse of the tag, and annotate on the Maintenance Record that the tag was attached.</p>		
<p><input type="checkbox"/> ICV vent port cover (PN 2077-156-11) PO# _____</p>		
<p><input type="checkbox"/> ICV vent port cover seal (gasket or O-ring) . . . (PN 2077-180-16) PO# _____ or (PN 2077-180-16A)</p>		
<p>1.0 Install plug and torque to 55 to 65 lb-in.</p>		
<p><input type="checkbox"/> ICV outer vent port plug (PN 2077-156-09) PO# _____</p>		
<p><input type="checkbox"/> ICV outer vent port plug seal O-ring (PN 2077-180-21) PO# _____</p>		
<p>1.0 Install plug and torque to 55 to 65 lb-in.</p>		
<p>2.0 If shipping radioactive waste, perform Preshipment (helium) Leakage Rate Test, and attach documentation to Maintenance Record.</p>		
<p>3.0 If shipping empty packaging, wire/crimp a "Leak Test Required" tag to the vent port seal boss with the name of the replaced O-ring written in indelible ink on the reverse of the tag, and annotate on the Maintenance Record that the tag was attached.</p>		
<p><input type="checkbox"/> ICV inner vent port plug (PN 2077-156-10) PO# _____</p>		
<p><input type="checkbox"/> ICV inner vent port plug seal O-ring (PN 2077-180-22) PO# _____</p>		
<p>1.0 Install plug and torque to 55 to 65 lb-in.</p>		
<p><input type="checkbox"/> OCV vent port access plug (PN 2077-156-13) PO# _____</p>		
<p><input type="checkbox"/> Thermal plug (PN 2077-156-15) PO# _____ or (PN 2077-156-15A)</p>		
<p>1.0 (Optional) Clean back side of plug and apply epoxy adhesive.</p>		
<p>2.0 (Optional) Center thermal plug and bond to back of threaded plug.</p>		
<p>3.0 Coat plug threads with nickel bearing lubricant.</p>		
<p>4.0 Install assembly and torque to 35 to 45 lb-ft.</p>		
<p><input type="checkbox"/> OCV seal test port access plug (PN 2077-156-12) PO# _____</p>		
<p><input type="checkbox"/> Thermal plug (PN 2077-156-14) PO# _____ or (PN 2077-156-14A)</p>		
<p>1.0 (Optional) Clean back side of plug and apply epoxy adhesive.</p>		
<p>2.0 (Optional) Center thermal plug and bond to back of threaded plug.</p>		
<p>3.0 Coat threads with nickel bearing lubricant.</p>		
<p>4.0 Install assembly and torque to 35 to 45 lb-ft.</p>		

Verification Requirements:

- 1.0 Spare parts used are listed on the Maintenance Record.
- 2.0 Helium leak test documentation is attached to Maintenance Record.
- 3.0 If the helium leak test has been deferred, a "Leak Test Required" tag is attached to the packaging and is annotated on the Maintenance Record.
- 4.0 Work performed is listed on the Maintenance Record.
- 5.0 Work Instruction is listed on the Maintenance Record.
- 6.0 M&TE used is listed on the Maintenance Record.